

CZ/4-60-3-13/44

AUTHOR: Lidařik, Miloslav, Engineer

TITLE: New Types of Czechoslovak Epoxide Resins. ✓

PERIODICAL: Nová Technika, 1960, No. 3, pp. 121 - 124

ABSTRACT: The author refers to an article published in "Nová Technika", 1959, Nr 8, written by Jar. Staňka on the subject "Epoxide Resin in Practice" and informs on new types of epoxide resins developed by the Výzkumny ústav syntetických pryskyřič a laku (Research Institute for Synthetic Resins and Laos) at Pardubice. The mass production of these resins was introduced by the Spolek pro chemickou a hutní výrobu (Union for Chemical and Metallurgical Production) at Ústí nad Labem. The "Epoxy 1001" and "Epoxy 1200 P" type resins do not suffice; to improve their quality a new type of hardening agent was developed. The properties of the new "Epoxy 18" (originally "Epoxy 1600") type and a comparison to the older type resins "Epoxy 1001" and "1200 P" are shown in Table 1. This table lists the Czechoslovak epoxide glues, the hardening agents, the components' quantitative ratio, the mixing temperature of components, the machining properties of the mixture at a temperature of 20°C indicated in hours, the minimum hardening temperature, the tensile strength in kg/cm², the breaking strength ARL in kg, and the heat resistance (Vicat) in °C. The production of the "Epoxy 18", "Epoxy 18" ✓

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New Types of Czechoslovak Epoxide Resins.

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D 20", and the hardening agents "KP₁", "KP₂", "M", and L 190 D" was taken up in 1959. Table 2 gives data on new types of epoxide casting resins. Comparative data of the new hardening agent "F₃" and the "F₁" type hardener and a description of the properties of the "Epoxy 2500" and "Epoxy 2600" types follow. In the course of an International Conference on the Gluing of Metals, held in Pardubice in 1957, the member of the Central Institute for Welding in Halle, GDR, Schwarze, dealt with the binding properties of epoxide resins to light metals when exposed to water. Parallel tests performed by the Research Institute for Synthetic Resins and Lacs at Pardubice proved that laminates made by the polyester resin "CHS - Polyester 104" have shown a higher resistance against moisture than the "CHS - Epoxy 2100" and "2200" type epoxide laminates. Satisfactory results were obtained with the "CHS-Epoxy 1001" and the "CHS-Epoxy 2000" type resins and the hardening agent "A 85". Comparative data are given on the resistance to moisture of untreated fabrics and of fabrics dressed with the epoxide solution "CHS-Polyester 104". The Chemický závod (Chemical Plant) at Plzeň produces in addition to the epoxide cement "Eprosin", the heat-retarding powdery epoxide resin "Epoxy 300". The mechanical and chemical qualities of the following epoxide coatings supplied by the n.p. ZAVBAL (ZAVBAL People's Enterprise) in Prague are described: the older types "Epoxy 300 Ac", "PGA 40" and PGA 35" and the new resins "Epoxy 1/16 Al 15",

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New Types of Czechoslovak Epoxide Resins.

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"Epoxy 1/33", hardened by the polyamide "L 190", and additional epoxy esters. The "Epoxy 1/09 S 40", "Epoxy 1/14 L 55 and "Epoxy 1/14 Re 40" types require either a siccative, or the hardening agent "Melform", a melanin-formaldehyde condensate. The Table 3 compares the unmodified Czechoslovak epoxide resins produced by the Union for Chemical and Metallurgical Products with those produced abroad; the table contains the Czechoslovak and foreign designations, the sticking temperature, and the equivalent quantity of epoxy/100 g. The following institutes are occupied in research activities in the field of resins and their application: Výskumný ústav zvaračský (Research Institute for Welding) at Bratislava, Výskumný a zkušební letecký ústav (Aeronautical Research and Testing Institute) in Prague, Vysoká strojní (Mechanical Engineering College) in Liberec, and the Vyzkumný ústav silnoproudé elektrotechniky (Research Institute for Power Engineering) in Prague. The coordination of research work is carried out by the Čs. VTS. There are 3 tables.

✓c

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S/064/60/000/03/06/022
B010/B008

AUTHORS: Lidafik, M., Mleziva, I., Beranová, D., Tamchyna, I.

TITLE: Low-molecular Epoxy Resins and Their Use in Technology

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 3, pp. 209-213

TEXT: After an introductory study of the manufacturing methods for epoxy resins, the authors described two new methods for the manufacture of low-molecular epoxy resins. According to the first method, the dichloro hydrin of dioxy-diphenyl propane is obtained in the first process by means of catalysts which are less alkaline than the commonly used NaOH solutions, i.e., with secondary or tertiary amines, sodium acetate, sodium carbonate etc. The second process, the dehydrochlorination, is carried out by the usual method. According to the second manufacturing method, the epoxy group is combined in the presence of alkaline catalysts with the hydroxyl group of phenol. The peculiarity consists in the fact that only a small amount of lye and plenty of NaCl are added. Thus, equilibrium is established whereby the dehydrochlorination is suppressed and the presence of a constant amount of the hydroxide (which acts as catalyst) is ensured.

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Low-molecular Epoxy Resins and Their Use
in Technology

S/064/60/000/03/06/022
B010/B008

Both methods have the advantage that the formation of high-molecular products is prevented. Low-molecular epoxy resins are used for the manufacture of laminates, varnishes, fillers etc. Examples of testing low-molecular epoxy resins on glass fiber fabrics (Table 1) with various hardeners (Table 2), of their electrical conductivity (Table 3) and their use as glues (Table 4) are given with explanations. There are 4 figures, 4 tables, and 9 non-Soviet references. ✓

ASSOCIATION: Issledovatel'skiy institut sinteticheskikh smol i lakov,
Pardubice, Czechoslovakia (Research Institute of
Synthetic Resins and Lacquers, Pardubice, Czechoslovakia)

Card 2/2

15.8110 1209, 1372, 1407

21282
G/004/61/008/004/001/003
B120/B206

AUTHORS: Leziva, J. M., Lidařík, M., and Starý, S.

TITLE: Effect of structure of various polyphenols on the properties of epoxy resins

PERIODICAL: Plaste und Kautschuk, v. 8, no. 4, 1961, 171-174

TEXT: The effect of structure of the phenolic component on the properties of epoxy resins of medium molecular weight was studied. Preparation of the phenolic component: The bisphenols (2)-(9) in Table 1 were prepared by condensation of the corresponding ketone and aldehyde, respectively, with phenol or o-cresol at a molar ratio 1:1.78 in the presence of 72.5% H_2SO_4 and a small amount of toluene and thioglycolic acid at 40°C; (12) by melting 62 g of 2-methyl-4-tert-butyl-6-methylol phenol with 105 g of 2-methyl-4-tert-butyl phenol, addition of 5 g of HCl concentrate at 90°C, heating to 120°C for one hour, distilling off in vacuum of the nonreacted 2-methyl-4-tert-butyl phenol, rinsing of the residue with petroleum ether, and recrystallizing from gasoline; (13) by melting 42 g of 4-tert-butyl-2,6-dimethyl phenol with 280 g of 4-tert-butyl phenol, addition of 7 ml of HCl concentrate, slow

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Effect of structure ...

G/004/61/008/004/001/003
B120/B206

solidifying under stirring and cooling, distilling off the nonreacted 4-tert-butyl phenol through water vapor distillation, and double recrystallizing of the residue from ethanol. Preparation of epoxy resins: To a mixture of 1 mole of bisphenol, 1.33 moles of epichlorohydrin and dioxane (30%, related to bisphenol), 1.40 moles of NaOH (in 30% solution) was added dropwise at 70°C in the course of 2 hr, then kept for 2 hr at 75°C, and then the mixture butanol - xylene (1:3) was added in the same proportion by weight as the original bisphenol. In the bisphenols (2) and (11) (see Table 1) dioxane had to be used as solvent, in (1) the part insoluble in butanol - xylene was dissolved by addition of dioxane. Two layers formed which were separated, the resin solution was cooled, neutralized with CO₂, dehydrated by azeotropic distillation, filtered, and the solvent was finally removed at 170°C in vacuum. The resins from bisphenols (6) and (10) were dried by means of silica gel. Properties of epoxy resins as dependent on the structure of the phenolic component: see Table 2. Explanations: Column 9: the cementing was hardened at 180°C for 2 hr, and the properties were rated according to Lidarik, M., Plaste und Kautschuk, v. 7 (1960), p. 55. Column 12: test of the produced epoxy resins for their suitability as stoving lacquers. These were produced according to Swiss patent 257115 of the Ciba AG (August 30,

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B120/B206

1948). Stoving lacquers made from the very easily accessible 2,2-bis(4-hydroxy-3-methyl-phenyl)-propane of good yield show unsatisfactory properties, even after combination with a resin from dimerized fatty acids and tri-ethylene amine. Casting resins from 2,2-bis(4-hydroxy-3-methyl-phenyl)-propane, hardened with phthalic anhydride, show insufficient strength properties as compared with those from 2,2-bis(4-hydroxy-phenyl)-propane (the values of resins made from 2,2-bis(4-hydroxy-phenyl)-propane are in parentheses): tensile strength 147 (460-510) kg/cm², flexural strength 541 (700-810) kg/cm², impact flexural strength 5 (16-24) kg/cm²; the resistance to heat according to Vicat is about equal: 116(115)°C; the electric insulation properties are inferior: dielectric constant 4.58(3.66), loss factor at 800 cycles, 0.069(0.0011), resistivity 10¹⁵(10¹⁶)Ω·cm. Table 3 shows the measured values for the deformation test according to Höppler after hardening the resins with phthalic anhydride (one molecule for 2 epoxy groups). Preparation of test pieces: the resin was heated to 120°C, the phthalic anhydride was stirred in for 10-15 min, the mass was then poured into the mold, and the test pieces (cylinder: 11.5 cm diameter, 8 cm height) were dried at 120°C for 17 hr. Conclusions: The epoxy resin properties strongly depend on the structure of the initial polyphenols. 2,2-bis(4-hydroxy-phenyl)-propane produces resins of universal applicability. Resins of special properties

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B120/B206

can be produced by using other polyphenols. There are 6 tables and 25 references: 3 Soviet-bloc and 22 non-Soviet-bloc. The three most recent references to English-language publications read as follows: W. Erich and M. J. Bodmar, Appl. Polymer Sci., v. 3(1960), p. 296. O. Stephenson, Soc. v.1954, p. 1571. W. E. Clair, Brit. P. 799629 (February 4, 1957), Union Carbide Corp., Swiss. P. 341002 (April 2, 1955).

ASSOCIATION: Forschungsinstitut für synthetische Harze und Lacke, Pardubice (ČSSR)(Research Institute of Synthetic Resins and Lacquers, Pardubice, Czechoslovakia)

Legends to the Tables: Table 1: (a) raw materials used, (b) melting point, °C, (c) determined, (d) according to publications, (e) trinuclear novolak from p-tert-butyl phenol. Table 2: Properties of produced epoxy resins: (1) polyphenol, (2) analysis, (3) content of epoxy groups, (4) chlorine content, (5) melting point, (6) solubility in (7) toluene, (8) mineral spirit, (9) properties of the glue with dicyano diamide, (10) tensile shearing strength, (11) resistance to heat according to Vicat, (12) lacquer film properties (hardened for 60 min at 180°C), (13) on glass, (14) on sheet steel, (15) hardness, measured by pendulum tester according to Persoz, (16) aspect, (17) thickness of layer, (18) flexibility test according to Erichsen, (19) Card 4/8

24025
Z/031/61/009/002/005/008
A205/A126

15 1124

AUTHOR: Lidařík, M., Engineer

TITLE: Gluing of metals

PERIODICAL: Strojírenská výroba, v. 9, no. 2, 1961, 81 - 83 and 85

TEXT: The article describes the gluing of metals with epoxy resins, and lists glues produced in the CSSR. An important factor for the durability of glued joints is the cleanness of the metal surface to be glued. Tests proved that the shearing strength of a joint, glued with "CHS-Epoxy 1200", decreases from 217 kg/cm² at clean surface to 169 kg/cm² at a surface contaminated with 0.96 mg stearin/dm², and to 23.5 kg/cm² when the surface was contaminated with 39.7 kg stearin/dm². Surfaces must therefore be mechanically cleaned (grinding, filling, blasting), degreased (with acetone, trichloroethylene, carbon tetrachloride, ethyl-alcohol, or a watery solution of P₃, a product of the "Továrna na sodu" in Neštěmice), and eventually pickled. The pickling bath for Al and light metals consists of 24 weight parts of sulfuric acid (1.82), 75 weight parts sodium dichromate, and 77 weight parts distilled water. The pickling bath for steel consists of 35 weight parts saturated sodium-dichromate solution in 1,000 weight parts sulfuric

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A205/A126

Gluing of metals

acid (1.84). Glued joints have great tensile and shearing strength, but only limited peeling strength, and peeling stress must therefore be avoided by proper design of the joint. The optimum thickness of the glue film is 0.05 - 0.15 mm. Epoxy and phenolic-resin glues are used in the CSSR. "CHS - Epoxy 1001" and "CHS-Epoxy 1200" glues are produced by the "Spolek pro chemickou a hutní výrobu" (Chemical and Metallurgical Combine) in Ústí nad Labem, and distributed by the "Chemický závod" in Plzeň, Cvokařská Street 10. The latter plant also produces "Eprosin" epoxy resins with a filler, suitable for repair work. "PK 11" polyamide-cdified phenolic resin glues are produced by the "Drutep" Plant in Teplice. An "Umakol K" glue, similar to the English "Redux" glue, was formerly produced in small batches by the "UMA" Plant in Semtín. Laboratory samples of these various glues can be obtained from the "Výzkumný ústav gumárenské a plastikářské technologie" (Research Institute for Rubber and Plastic-Material Technology" in Gottwaldov. The "CHS - Epoxy 1001" is a thermosetting glue that produces joints with a shearing strength of 350 kg/cm² at static stress and of 160 kg/cm² at dynamic stress, with a peeling strength of 2 - 3 kg/cm, and a heat resistance up to 120 - 130°C. (The heat resistance is tested by the "Vicat" method, in which a needle with a 1 mm² tip, loaded with 5 kg, intrudes 1 mm into the tested material). The "CHS - Epoxy 1200" with the hardening agent "P" is a cold-setting glue, but has inferior qualities.

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Gluing of metals

(Shearing strength 200 kg/cm² at static, 60 kg/cm² at dynamic stress, peeling strength 2 kg/cm, heat resistance 50 - 60°C). The "VÚSPL - Výzkumný ústav syntetických pryskyřic a laků" (Research Institute for Synthetic Resins and Varnishes) in Pardubice produces small batches of glues, such as the "CHS - Epoxy 1200" with the novel hardener "KP₂", which produces joints with higher peeling strength (10-12 kg/cm), and the "CHS - Epoxy 110" (former designation "VÚSPL Pardubice Epoxy 1600") with hardeners "M" or "A 85 D", which produces joints with higher heat resistivity (over 200°C). The "CHS - Epoxy 110" with the hardener "L 190 D" is especially suitable for repair work. The 2 components are mixed in an approximate ratio of 6 : 10 and are supplied in tubes. Tests were completed with 2 new epoxy glues, preliminarily designated "1" and "2", which comply with US Air Force Standards. Metal gluing is already employed by 1,500 Czechoslovak plants and saves costs and raw materials. An outstanding example of metal gluing with "CHS-Epoxy 1200" is a 10 m long and 2.65 m wide duralumin bridge, constructed at the IInd Mechanical Engineering Exhibition in Brno by the "Výzkumný ústav zvaračský" (Welding Research Institute) in Bratislava. The bridge structure weighed 380 kg, the asphalt cover weighed 625 kg and the carrying power of the bridge was 13.3 tons. Epoxy resin is also used for the gluing of insulation panels, furniture, gluing of tips on cutting tools to save high-speed steel (tests in this field were

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Gluing of metals

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made by the "Vysoká škola strojní" (Institute for Mechanical Engineering in Liberec), for the gluing of duralumin tubes of a triangulation tower, for gluing stabilizers of "Aero 145" aircraft, for gluing handle bars of "Manet" motorcycles, for bicycle frames, and for the gluing of electro-engineering parts (magnets, transformer sheets, measuring instruments, etc). The "Křižík" National Enterprise in Prague-Smíchov saved 150,000 Czech Crowns in the first year after introduction of gluing of magnets into measuring instruments. In conclusion, the author states that metal gluing is very advantageous when properly applied, and that further research into this field will be assisted by the "Cs. vědecká technická společnost" (Czechoslovak Scientific Technical Society). There are 4 figures and 20 Soviet-bloc references.

ASSOCIATION: "Výzkumný ústav syntetických pryskyřic a laků" (Research Institute for Synthetic Resins and Varnishes) in Pardubice

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S/081/63/000/001/057/061
B144/B186

AUTHORS: Lidařik, Miloslav, Dufek, Jan, Starý, Stanislav, Smrčka,
Jindřich

TITLE: Production of epoxy resins

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1963, 539, abstract
1T130 (Czechosl. patent 100282, July 15, 1961)

TEXT: Epoxy resins are obtained when epihalohydrin and its derivatives react in the presence of a Friedel-Crafts catalyst with mono- and poly-atomic phenols, alcohols, bisphenols, or phenol resins, and the resultant mixture of halohydrin ethers of phenol compounds (or the mixture of separately prepared halohydrin ethers) and alcohol is dehydrohalogenated in high-alkaline medium. By way of example, 1 mole diene and 10 moles ethyl chlorohydrin are mixed in a flask and heated under stirring to 70°C. 1% triethanol amine (related to diene) and 3% NaCl in 15% aqueous solution are added. The mixture is heated to boiling and then left for 4 hrs. Then, 0.12 mole glycerin-tris-chlorohydrin ether is introduced, which has been prepared by reaction of 3 moles ethyl chlorohydrin and 1 mole

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Z/009/62/000/009/004/004
E112/E435

AUTHOR: Lidařík, Miloslav

TITLE: Epoxy-resins produced by an ionic polymerization mechanism

PERIODICAL: Chemický průmysl, no.9, 1962, 523-524

TEXT: The paper consists almost entirely of a literature review of catalysts and reaction mechanisms in the field of epoxy-compounds. The author mentions briefly that his work is concerned with the study of the polymerization and hardening of epoxy-lacquers, laminates, moulded resins, foamed articles and adhesives by an ionic mechanism. Practical work was preceded by a study of the polymerization mechanism of phenyl-glycidyl-ethers and other glycidyl-ethers in the presence of 30 different catalysts. Two main trends were followed: 1) catalyst complexes which were active in the cold, e.g. at 20°C and below; 2) catalyst complexes which react at higher temperatures, e.g. 105, 140 and 180°C. Catalysts of group (1) are considered useful for solvent-free lacquers with high gloss and good chemical resistance, for foamed objects and moulded resins with high thermal resistance. Catalysts of group (2) are recommended for

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Z/009/62/000/009/004/004
E112/E435

Epoxy-resins produced ...

adhesives, laminates, moulded resins and lacquers with solvents.
Details of the practical work about ionic polymerization will be
the subject of further papers.

ASSOCIATION: Výzkumný ústav syntetických pryskyřic a laků,
Pardubice (Research Institute for Synthetic Resins
and Lacquers, Pardubice).

Card 2/2

LIDARZHNIK, Miloslav[Lidarik, Miloslav] (g. Pardubitzse, Chekhoslovatskaya
Sotsialisticheskaya Respublika)

Application of the ionic polymerization method for hardening
of epoxide resins. Plast. massy no.3:11-17 '63.
(MIRA 16:4)

(Epoxy resins) (Polymerization)

LIDARZHIK, M. [Lidarik, M.]; STARY, S.; MLEZIVA, Y.

Cationic polymerization of glycidol ethers. Vysokom.soed. 5
no.11:1738-1747 N '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut sinteticheskikh smol i lakov,
Chexoslovakiya.

LIDARZHIK, M.; STARY, S.; MLEZIVA, Y.

Anionic polymerization of glycidol ethers. Vysokom.sped. 5 no.11:
1748-1753 N '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut sinteticheskikh smol i lakov,
Chekhoslovakiya.

LIDARIK, Miloslav, inz., CSc.

Gluing metallic materials. Tech praca 15 no.8:579-583 Ag '63.

LIDARIK, Miloslav, inz. CSc.; STARY, Stanislav

New types of epoxy casting resins. Elektrotechnik 19 no.5:
140-143 My '64.

1. Research Institute of Synthetic Resins and Lacquers, Pardubice.

LIDARIK, Miloslav; STARY, Stanislav; ITKZIVA, Josef

Ionic polymerization of glycidyl ethers. Chem zvesti 14
no.10:521-525 0 '64.

1. Research Institute of Synthetic Resins and Lacquers,
Pardubice.

L 04999-67 EWP(j)/T LJP(c) WW/RM

ACC NR: AP6031158 (A) SOURCE CODE: CZ/0038/66/000/009/0325/0333

AUTHOR: Rotrekl, Bedrich; Lidarik, Miloslav--Lidarzhik, M. 28
B

ORG: Research Institute of Synthetic Resins and Lacquers, Pardubice (Vyzkumny ustav syntetickych pryskyric a laku)

TITLE: Contamination and decontamination of epoxy resin-base lacquers

SOURCE: Jaderna energie, no. 9, 1966, 325-333

TOPIC TAGS: epoxy resin, ^{radioactive} contamination, nuclear contamination, ~~epoxy resin~~ ^{nuclear} decontamination, lacquer

ABSTRACT: A series of epoxy resin-base lacquers were tested for susceptibility to radioactive contamination and for ease of decontamination. Epoxy 110EG8.5 and Epoxy 12 resins, hardened with B8 catalyser, were found to have low wettability, high heat resistance, and the lowest susceptibility to contamination. Both are easily decontaminated and are expected to find a wide application in nuclear industry. Orig. art. has: 8 figures and 8 tables. [DV]

SUB CODE: 11, 18/ SUBM DATE: 11Jun65/ ORIG REF: 001/ OTH REF: 007/

Card

1/1

ACC NR: AP6031836

(A)

SOURCE CODE: CZ/0009/66/000/007/0414/0420

AUTHOR: Lidarik, Miloslav; Stary, Stanislav; Tamchyna, Jiri

ORG: Research Institute for Synthetic Resins and Lacquers, Pardubice (Vyzkumny ustav syntetichkych pryskyric a laku)

TITLE: Ion exchange polymerisation catalysts for manufacturing epoxy resins

SOURCE: Chemicky prumysl, no. 7, 1966, 414-420

TOPIC TAGS: catalytic polymerization, ion, epoxide, epoxy resin, ion
EXCHANGE

ABSTRACT: This article discusses the practical uses of ion exchange polymerization catalysts for the manufacture of epoxy resins and is a supplement to and a continuation in depth of a treatment of the subject which appeared in previous publications. The results obtained so far from the investigation of the ion exchange polymerization of epoxy resins carried out at the Research Institute for Synthetic Resins and Lacquers at Pardubice are surveyed, and it is pointed out that the overall increased importance of epoxy resins, in particular their increased applications in the electrical industry, is due to the possibility of hardening them by ionization polymerization. They are suitable for use in cast resins, in insoluble lacquers, impregnation resins, in glues,

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UDC: 66.095.264; 679.576; 679.5:621.3

ACC NR: AP6031836

in surfaces toatings, etc. The development of catalysts for this type of hardening has still not been completed, but the progress made so far in improving the qualities of epoxy resins indicates that there is real hope for further improvement. Orig. art. has: 1 figure and 20 tables.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 004/ SOV REF: 002/ OTH REF: 003

Card 2/2

ACC NR: AP6031836

(A)

SOURCE CODE: CZ/0009/66/000/007/0411/0420

AUTHOR: Lidarik, Miloslav; Stary, Stanislav; Tamchyna, Jiri

ORG: Research Institute for Synthetic Resins and Lacquers, Pardubice (Vyzkumny ustav syntetickych pryskyric a laku)

TITLE: Ion exchange polymerization catalysts for manufacturing epoxy resins

SOURCE: Chemicky prumysl, no. 7, 1966, 414-420

TOPIC TAGS: catalytic polymerization, ion, epoxide, epoxy resin, (10A)
EXCHANGE

ABSTRACT: This article discusses the practical uses of ion exchange polymerization catalysts for the manufacture of epoxy resins and is a supplement to and a continuation in depth of a treatment of the subject which appeared in previous publications. The results obtained so far from the investigation of the ion exchange polymerization of epoxy resins carried out at the Research Institute for Synthetic Resins and Lacquers at Pardubice are surveyed, and it is pointed out that the overall increased importance of epoxy resins, in particular their increased applications in the electrical industry, is due to the possibility of hardening them by ionization polymerization. They are suitable for use in cast resins, in insoluble lacquers, impregnation resins, in glues,

UDC: 66.095.264; 679.576; 679.5:621.3

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ACC NR: AP6031836

in surfaces toatings, etc. The development of catalysts for this type of hardening has still not been completed, but the progress made so far in improving the qualities of epoxy resins indicates that there is real hope for further improvement. Orig. art. has: 1 figure and 20 tables.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 004/ SOV REF: 002/ OTH REF: 003

Card 2/2

LIDEMAN, R.R.; IR'YANOV, Yu.I.

Hemolytic stability of the erythrocytes in schizophrenics.
Zhur. nevr. i psikh. 65 no.8:1201-1205 '65. (MIRA 18:8)

1. Laboratoriya obshchey patofiziologii (zaveduyushchiy M.Ye.
Vartanyan) Instituta psikiatrii AMN SSSR, Moskva.

(A)
 L 00042-66 EWA(j)/EWA(b)-2/ENT(1)/ENT(m) RM/EW/RO
 ACCESSION NR: AP5023714 UR/0075/65/020/008/0845/0849
 44.55 543.80 44.55 44
 AUTHOR: Kost, A. N.; Koronelli, T. V.; Lideman, R. R.; Sagitullin, R. S. 37
 TITLE: Fluorescence method for separate determination of ergoalkaloids and tryptophan
 SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 8, 1965, 845-849
 TOPIC TAGS: fluorescence spectrum, alkaloid, tryptophan, spectrophotometric analysis
 ABSTRACT: The ability of ergoalkaloids and tryptophan to fluoresce in ultraviolet light was utilized in a method for their separation and determination, as these compounds were found to have widely separated peaks in their absorption and fluorescence spectra. 5-Methoxy-N-methyltryptophan and 5-methoxy-2-indolecarboxylic acid present together in approximately equal amounts (with respective peaks at 338 and 420 mμ) were thus separated. Ergoalkaloids could not be determined in the presence of dihydroergotoxin, whose spectra are too similar to theirs. Although the spectra of ergonovine and lysergic acid are also quite similar, these two compounds

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00012-66

ACCESSION NR: AP5023714

can be determined when present together if different wavelengths are employed. Mix-
tures of lysergic acid and tryptophan lend themselves particularly well to the
fluorescence analysis, even when one or the other is present in considerable excess.
The proposed method was then successfully applied to the analysis of alkaloidlike
metabolic products of the mold Cl. purpurea strain PRL-1980. Orig. art. has: 8
figures and 3 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow
State University); Institut psikiatrii AMN SSSR (Institute of Psychiatry, AMN
SSSR)

SUBMITTED: 08Jul64

ENCL: 00

SUB CODE: GC, OP

NO REF SOV: 004

OTHER: 009

Card 2/2

ZHULOVYAN, V.V., inzh.; LIDENGOL'IS, Ya.F., inzh.

Calculation of the frequency characteristics of reactive step-by-step motors. Elektrotehnika 36 no.1:41-43 Ja '65.

(MIRA 18:3)

24.2600
26.1512

S/181/62/004/005/011/055
B125/B104

AUTHORS:

Gross, Ye. F., Lider, K. F., and Novikov, B. V.

TITLE:

Spectral examination of the photoconductivity curves of CdS crystals at 77 and 4°K in the region of the absorption edge

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1135 - 1139

TEXT: Plates of CdS single crystals affixed to quartz backings were used to study the effect of temperature on the shape of the spectral curves of photocurrent and the coincidence between the absorption maxima and the values of photocurrent. Cooling from 77 to 4°K produces the following effects: Like the absorption spectrum, the curves are also shifted toward shorter wavelengths. All curves obtained at 4 and 77°K may be divided into two groups according to the coincidence between their absorption maxima and their extreme values of photocurrent. In the first group, the absorption lines correspond to photocurrent maxima, and in the second, they correspond to minima. On the short-wave section of the curves, the photo-sensitivity of crystals belonging to the second group at 77°K was higher

Card 1/2

VA

Spectral examination of ...

S/181/62/004/005/011/055
B125/B104

than on the long-wave section. The coincidence between the photocurrent curves and the absorption maxima changes substantially. Crystals belonging to the second group at 77.3°K belong to the first at 4.2°K . A similar observation can be made with some CdS crystals in the range $300 - 77^{\circ}\text{K}$. The photosensitivity of so-called "mixed crystals" heated to room temperature increases abnormally in the long-wave pseudomaximum, and increases also in the short-wave section when they are cooled from room temperature to 77°K . It is noted that crystals with many surface and bulk defects yield spectral curves of the first type for any temperature, while crystals with only few defects afford curves of the first type. Hence, defects are non-uniformly distributed throughout the volume of mixed crystals. There are 5 figures. The most important English-language reference is: E. F. Gross a. B. V. Novikov. Bull. Amer. Phys. Soc., Ser. II, 6, 5, 478, 1961. JA

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: December 12, 1961

Card 2/2

38912
S/181/62/004/006/018/051
B125/B104

24.2600
26.2420
AUTHORS:

Lider, K. F., and Solov'yev, L. Ye.

TITLE:

The optical and photoelectrical properties of GeS and GeS₂

PERIODICAL:

Fizika tverdogo tela, v. 4, no. 6, 1962, 1500-1502

TEXT: The authors studied the absorption spectra of GeS and GeS₂ single crystals and layers, and the spectral distribution of photoconductivity of a GeS crystal. The edge of the GeS₂ spectrum (just as that of MoO₃, BiO₃, V₂O₅, As₂S₃, PbO, HgI₂) has no structure; a photoconductive effect does not show up. A narrow, intense, polarized absorption line each was observed in the absorption spectrum of GeS at 77°K and at 4°K. The GeS and GeS₂ specimens (monocrystalline plates) were synthesized from Ge and S in a quartz ampoule and then annealed at a temperature near their melting point. The two absorption edges of the GeS crystals at room temperature are at ~7670 Å and 7260 Å. When the crystal is cooled to 77°K, the edges pass on to 7240 Å and 6900 Å. The long-wave edge

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S/181/62/004/006/018/051
B125/B104

The optical and...

corresponds to the polarization $E\parallel a$, the short-wave edge to $E\parallel c$. a and c are the crystal axes lying in the plate plane. The absorption line $\sim 7185 \text{ \AA}$, observed in thin plates ($d \sim 50 \text{ \mu}$) and when the crystal was turned about the axis parallel to a , corresponds to a plane oscillator in the plane perpendicular to the c axis. At $T = 4.2^\circ\text{K}$, the edge in the component $E\parallel a$ is at $\sim 7140 \text{ \AA}$ and the line is at $\sim 7110 \text{ \AA}$. A broad luminescence band at $\sim 8000 \text{ \AA}$ appears in GeS_2 crystals at 77°K . The blurred edge of the spectra of the GeS_2 crystals is displaced from 3500 \AA at room temperature to 3300 \AA at 77°K . The curve of the spectral distribution of photoconductivity taken in unpolarized light at 77.3°K has a maximum at $\sim 7200 \text{ \AA}$. The spectrum taken at 300°K is more intense, with a peak at $\sim 7000 \text{ \AA}$. The resistivity of GeS_2 specimens did not change on irradiation with concentrated undecomposed light from a mercury vapor lamp. Owing to the partial decomposition of the vacuum evaporation-coated GeS_2 layers (with formation of GeS), absorption occurs in the range of transparency of the GeS_2 crystals. The spectrum of a GeS_2 layer vapor-plated in an H_2S atmosphere is similar to the absorption spectrum of the GeS_2 crystals.

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The optical and...

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B125/B104

The absorption edge may lie between 7200 Å and 3400 Å, according to the shares of GeS_2 and GeS in the mixture. There are 2 figures.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: January 22, 1962

Card 3/3

ACCESSION NR: AP3002891

S/0054/63/000/002/0045/0051

AUTHOR: Lider, K. F.

TITLE: The absorption, luminescence, and photoconductivity of the polycrystalline AgI layers in the absorption limit region at low temperatures

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 2, 1963, 45-51

TOPIC TAGS: AgI, AgI film, absorption, luminescence, photoconductivity, absorption limit, ISP-51 spectrograph, UF-84 camera, SVDSH-500 mercury lamp, UFS-2 filter

ABSTRACT: The absorption, luminescence, and photoconductivity of polycrystalline AgI with cubic (γ) and with hexagonal (β) structure were studied experimentally at 4.2 and at 77K. The microphotographs of the absorption spectra obtained are shown in Figures 1 and 2 on the Enclosures. Strong lines in the β - and γ -AgI spectra are believed to be related to the origin of the exciton states in the AgI crystals, while strong absorption doublets are explained by the split of valence zone in the wurtzite lattice and by the deformation effect in the sphalerite lattice. Studies of luminescence spectra were conducted with an ISP-51 spectro-

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ACCESSION NR: AP3002891

graph equipped with a UF-84 camera (linear dispersion 7 \AA/mm in the 4200 \AA region). The luminescence was induced by a SVDSH-500 mercury lamp through a UFS-2 filter. For the results of this study see Fig. 3 on the Enclosures. The same samples were used for the investigation of photoconductivity. In this work an aquadag was substituted for the electrodes. The monochromator dispersion in $4200\text{-}4500 \text{ \AA}$ region was 25 \AA/mm , the active width of the slit was $1\text{-}3 \text{ \AA}$, and voltage on the sample was 100 v . The results obtained are presented graphically on Fig. 4 on the Enclosure. It was noted that although the general form of the curves was different for different samples, their structural similarity persisted, and the position of their minima was unchanged. "The authors express their gratitude to the correspondent member of the AN SSSR Professor Ye. F. Gross for his attention and advice, and to the associates of the FTI, L. G. Suslina and B. S. Razbirin, for their participation in work with liquid helium." Orig. art. has: 1 table and 4 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 24Jul63

ENCL: 06

SUB CODE: PH

NO REF SOV: 006

OTHER: 009

Card 2/8 ✓

LIDER, K.F.; NOVIKOV, B.V.

Absorption, luminescence, and photoconductivity of polycrystalline AgI films in the region of the absorption edge at low temperatures.

Vest. LGU 18 no.10:45-51 '63.

(MIRA 16:8)

(Silver iodide--Absorption spectra)

ACC NR: AP6036321

SOURCE CODE: GE/0030/66/018/011/K001/K004

AUTHOR: Lider, K. P.; Novikov, B. V.; Permogorov, S. A.

ORG: Institute of Physics, State University, Leningrad

TITLE: Application of bound-exciton optical spectra in the study of radiation damage in crystals

SOURCE: Physica status solidi, v. 18, no. 11, 1966, K1-K4

TOPIC TAGS: radiation damage, ~~irradiation damage~~, ionizing irradiation, exciton, *crystal lattice defect, optic spectrum, luminescence spectrum*

ABSTRACT: Radiation damage in crystals was investigated by means of excitons bound to lattice defects. The radiative annihilation of bound-exciton states gives rise to emission lines which are resonant with the absorption lines. Of the bound-exciton lines, the most intensive are the I_1 line (4888.6 Å) and the group of I_2 lines (I_{2A} : 4867.2 Å; I_{2B} : 4869.1 Å; I_{2C} : 4870.2 Å). Bound-exciton emission was studied at 77 and 4.2K in CdS crystals bombarded with ions and deuterons. Ion bombardment caused the I_2 to appear in the luminescence spectrum at 77K of those specimens for which it had not been observed before bombardment; it intensified those which had been present before bombardment. At 4.2K a new line with a 4870.1 Å wavelength appeared in the luminescence

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ACC NR: AP6036321

and absorption spectra of ion-bombarded crystals. The stimulated line corresponded to the I_{2C} line. To prove that the changes observed in the luminescence spectrum resulted from the radiation damage, CdS crystals were bombarded with a flux of $10^{16}/\text{cm}^2$ 6-Mev deuterons. Essentially the same changes occurred in the luminescence spectrum as occurred after bombardment with ions. At 77K a line appeared in the luminescence spectrum with its center near 4886 Å. As compared to the line obtained by ion bombardment, it was considerably broader and did not exhibit an apparent dependence on light polarization. All the radiation induced changes were stable at room temperature. The appearance of an emission line at 4886 Å at 77K as well as the emission and absorption line at 4870.1 Å corresponding to it at 4.2K can be associated with the increased sulphur vacancies in the near-surface layer. They act as donors and produce a change of dark resistance. When such crystals are excited by light, exciton neutral-donor complexes are formed near these vacancies, which cause the appearance of a new spectral line. The energy of the bombarding ions and deuterons is sufficient to displace atoms of both sulphur and cadmium. However, in this case sulphur vacancies are primarily formed. [WA-95]

SUB CODE: 20/ SUBM DATE: 29Aug66/ ORIG REF: 003/ OTH REF: 005

Card 2/2

ACC NR: AP6036321 SOURCE CODE: GE/0030/66/018/011/K001/K004

AUTHOR: Lider, K. F.; Novikov, B. V.; Permogorov, S. A.

ORG: Institute of Physics, State University, Leningrad

TITLE: Application of bound-exciton optical spectra in the study of radiation damage in crystals

SOURCE: Physica status solidi, v. 18, no. 11, 1966, K1-K4

TOPIC TAGS: radiation damage, ~~irradiation damage~~, ionizing irradiation, exciton, *crystal lattice defect, optic spectrum, luminescence spectrum*

ABSTRACT: Radiation damage in crystals was investigated by means of excitons bound to lattice defects. The radiative annihilation of bound-exciton states gives rise to emission lines which are resonant with the absorption lines. Of the bound-exciton lines, the most intensive are the I_1 line (4888.6 Å) and the group of I_2 lines (I_{2A} : 4867.2 Å; I_{2B} : 4869.1 Å; I_{2C} : 4870.2 Å). Bound-exciton emission was studied at 77 and 4.2K in CdS crystals bombarded with ions and deuterons. Ion bombardment caused the I_2 to appear in the luminescence spectrum at 77K of those specimens for which it had not been observed before bombardment; it intensified those which had been present before bombardment. At 4.2K a new line with a 4870.1 Å wavelength appeared in the luminescence

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ACC NR: AP6036321

and absorption spectra of ion-bombarded crystals. The stimulated line corresponded to the I_{2C} line. To prove that the changes observed in the luminescence spectrum resulted from the radiation damage, CdS crystals were bombarded with a flux of $10^{16}/\text{cm}^2$ 6-Mev deuterons. Essentially the same changes occurred in the luminescence spectrum as occurred after bombardment with ions. At 77K a line appeared in the luminescence spectrum with its center near 4886 Å. As compared to the line obtained by ion bombardment, it was considerably broader and did not exhibit an apparent dependence on light polarization. All the radiation induced changes were stable at room temperature. The appearance of an emission line at 4886 Å at 77K as well as the emission and absorption line at 4870.1 Å corresponding to it at 4.2K can be associated with the increased sulphur vacancies in the near-surface layer. They act as donors and produce a change of dark resistance. When such crystals are excited by light, exciton neutral-donor complexes are formed near these vacancies, which cause the appearance of a new spectral line. The energy of the bombarding ions and deuterons is sufficient to displace atoms of both sulphur and cadmium. However, in this case sulphur vacancies are primarily formed. [WA-95]

SUB CODE: 20/ SUBM DATE: 29Aug66/ ORIG REF: 003/ OTH REF: 005

Card 2/2

3(5)

PHASE I BOOK EXPLOITATION

SOV/2403

RSFSR. Glavnoye upravleniye geologii i okhrany nedr. Ural'skoye geologicheskoye upravleniye.

Materialy po geologii i poleznym iskopayemym Urals, vyp. 6 (Materials on the Geology and Mineral Deposits of the Urals, Nr.6) Moscow, Gosgeoltekhizdat, 1958. 150 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Ministerstvo geologii i okhrany nedr SSSR.

Ed.: P. I. Aladinskiy; Deputy Ed.: K. V. Mokrushin; Ed. of Publishing House: G. F. Nemanova; Tech. Ed.: O. A. Gurova; Editorial Board: V. V. Belov, N. A. Karzhavin, K. Ye. Kozhevnikov, A. A. Korol'kov, P. V. Nechayev, M. A. Poyarkov, I. D. Sobolev, and B. F. Tarkhaneyev.

PURPOSE: This book is intended for geologists and economists interested in the mineral resources of the Urals.

COVERAGE: This collection of articles treats aspects of the physical geology and mineralogy of the Urals. Individual papers discuss: bauxite deposits, oolitic iron ore deposits, the Tobol'sk titanium and zirconium deposits, and problems in structural geology. No personalities are mentioned. References accompany each article.

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Materials on the Geology and Mineral Deposits (Cont.)

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- AVAILABLE: Library of Congress

Card 3/3

MM/mg
10-1-59

LIDER, V.A.

Jurassic sediments in the Northern Sos'va Valley. Mat.po geol.i pol.
iskop.Urala no.6:41-57 '58. (MIRA 12:10)
(Northern Sos'va Valley--Geology)

BAIABANOVA, T.F.; GALERKINA, S.G.; GRIBKOV, V.V.; DERVIZ, T.L.; KIRINA, T.I.;
KRAVETS, V.S.; LIDER, V.A.; MESEZHNIKOV, M.S.; RABINOVICH, S.D.;
UMOVA, L.A.

Mesozoic and Cenozoic facies of the western part of the
West Siberian Plain. Trudy VNIGRI no.140:183-227 '59.
(MIRA 13:6)

(West Siberian Plain--Geology, Stratigraphic)

LIDER, V. A., Cand Geol-Min Sci -- (diss) "Stratigraphy and coal potential of the Mesozoic deposits of the basin of the Northern Sos'by River. (Eastern slope of Northern Urals)." Sverdlovsk, 1960. 16 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Sverdlovsk Mining Inst im V. V. Vakhrushev); 150 copies; price not given; list of author's work on pp 15-16 (15 entries); (KL, 22-60, 133)

35032

S/122/62/000/003/006/007

D262/D302

18.1152

AUTHORS: Funke, V.F., Candidate of Technical Sciences, Lider,
V.Ya., and Panov, V.S. Engineers

TITLE: Effect of tantalum on physical, mechanical and cutting
properties of tungsten-cobalt carbide alloys

PERIODICAL: Vestnik mashinostroyeniya, no. 3, 1962, 79 - 82

TEXT: Experiments conducted to establish the effect of small quantities of tantalum and titanium (up to 3 atomic percent), on WC-Co alloys containing 8 % Co, are described. The alloying elements were introduced in the form of single-phase solid solutions TaC-WC and TiC-WC. The alloys obtained had the same grain size of the WC phase for all contents of the alloying element. The specimens were subjected to the following tests and the results were recorded in form of graphs and analyzed. 1) Bending (machine P-5 (R-5), at 20°C, distance between supports 30 mm); addition of Ta had practically no effect on the bending resistance; addition of Ti lowered the resistance; 2) Impact (pendulum hammer, 50 kg/cm, at 20°C, distance bet-

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Effect of tantalum on physical, ...

S/122/62/000/003/006/007
D262/D302

ween supports 20 mm); Impact strength increased slightly with increasing Ta content; 3) Hardness (diamond indenter load 10 kg) increased linearly with increasing Ta content; 4) Cutting properties (machined material: Cast iron and carbon steel); with the increase of the Ta content wear qualities improve. The effect of the Ti is similar but less pronounced. There are 5 figures, 1 table and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. The reference to the English-language publication reads as follows: M. Petrdlik, Research Institute for Powder Metallurgy. An abridged version of a paper read at the International Conference on Sintered Carbides held at Strbske Pleso (High Tatra) in December 1958.

X

Card 2/2

FUNKE, V.F., kand.tekhn.nauk; LIDER, V.Ya., inzh.; PANOV, V.S., inzh.

Effect of tantalum on physicomachanical and cutting properties
of tungsten carbide -cobalt alloys. Vest.mash. 42
no.3:79-82 Mr '62. (MIRA 15:3)

(Tantalum)
(Cobalt alloys)
(Metal-cutting tools)

SHIROKOV, A.P., kand. tekhn. nauk; KUZ'MIN, G.P.; STEPANOV, Ye.A.;
LIDER, V.A.

Industrial testing of the automatic drive of a coal saw.
Ugol' 40 no.1:46-48 Ja '65. (MIRA 18:4)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut
(for Shirokov, Stepanov, Lider). 2. Trest Kiselevskugol'
(for Kuz'min).

LIDER, V.A.; PERVAGO, V.A., otv.red.; MOKHUSHIN, K.V., red.; YERMAKOV, N.P., red.; KOROL'KOV, A.A., red.; KOZHEVNIKOV, K.Ye., red.; NECHAYEV, P.V., red.; POYARKOV, M.A., red.; PURKIN, A.V., red.; SOBOLEV, I.D., red.; TARKHANEYEV, B.F., red.

[Geology of the Northern Sos'va brown coal basin.] Geologia Severosos'vinskogo burougol'nogo basseina. Moskva, Nedra, 1964. 144p. (Materialy po geologii i poleznym iskopaemym Urala, no.11) (MIRA 18:4)

1.11090-63 T-2/EPR/EWP(j)/EPF(c)/EWT(1)/EPF(n)-2/EWP(q)/EWT(m)/BDS/EEG(b)-2--AFFTC/ASD
ESD-3/ESD--Ps-4/Pc-4/Pr-4/Pu-4/Pq-4--RM/WW/JD/WH/IJP(C)
ACCESSION NR: AP3000634

S/0181/63/005/005/1479/1480

91

AUTHOR: Lider, V. V.; Berezhkova, G. V.; Rozhanskiy, V. N.

TITLE: Luminescent fiberlike crystals of sodium chloride

SOURCE: Fizika tverdogo tela, v. 5, no. 5, 1963, 1479-1480

TOPIC TAGS: luminescent fiber, sodium chloride luminescence, copper impurity luminescence, silver impurity luminescence

ABSTRACT: The luminescence of crystal fibers of NaCl containing Ag (0.2, 0.4, 0.5, and 0.9% by weight) and Cu (0.1 and 0.2% by weight) impurities has been observed by a monochromator with a photoelectric unit. The fibers were grown by using seeds in a saturated solution of NaCl containing long molecular chains (polyvinyl alcohol) in a concentration of 0.03 g/100 cm³; this process produced very long fibers. The luminescence was excited by a lamp. Cu⁺⁺ ions were introduced by addition of a water-soluble salt (CuCl₂); fibers grown in this manner did not luminesce. Ag⁺⁺ ions were introduced by means of a water-soluble complex [Ag(NH₃)₂]OH; the silver-containing fibers exhibited blue luminescence when excited by light in the 250- to 400-mμ band. Studies in an ultraviolet microscope showed the ions to be incorporated in a nonuniform manner. Separate bright

Card 1/2

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ACCESSION NR: AP3000634

luminescence regions were observed in the fiber. It is noted that activated crystal fibers, unlike pure ones, are not fully soluble in water. The undissolved residue forms bent fibers equal in length to the initial fibers (which are up to several tens of centimeters in length). Under ultraviolet light they exhibit a more intense blue luminescence than the initial fibers. Absorption spectra show that during the growth process the crystals capture the polyvinyl alcohol. It is considered that the insoluble residue may form because of the interaction of the alcohol with the silver ions. "In conclusion the authors express deep thanks to Z. B. Perakalinina for her help during the execution of the work and the discussion of the results and to S. V. Grum-Grzhimaylo for the obligingly granted opportunity of working on the ultraviolet microscope." Orig. art. has: 1 figure.

ASSOCIATION: Institut kristallografi AN SSSR, Moscow (Institute of Crystallography, AN SSSR)

SUBMITTED: 03Jan63

DATE ACQ: 11Jun63

ENCL: 00

SUB CODE: PH

NO REF SOV: 004

OTHER: 001

See/WM
Card 2/2

LANTSMAN, M.Kh.; LIDERMAN, I.S.

Standardization of input and output parameters of measuring
systems with a current outlet. Standartizatsia 24 no.6:
11-12 Je '60. (MIRA 13:7)
(Electric instruments)

Liderman, S.M.

AUTHORS: Andon'yev, S.M., Candidate of Technical Sciences, 130-12-4/24
Kudinov, G.A., and Liderman, S.M., Engineers.

TITLE: Plate Coolers in the Blast Furnace Stack (Plitovyye kholod-
il'niki v shakhte domennykh pechey)

PERIODICAL: Metallurg, 1957, No.12, pp. 8 - 9 (USSR).

ABSTRACT: The authors consider the heat-loss and cooling problems involved in using peripheral plate coolers (horizontally-ribbed vertical plates) in the blast-furnace stack, as at the Dzerzhinsk Works. This practice was described by G.G. Oreshkin and the authors examine some of his conclusions. They disagree with Oreshkin's views on optimal stack lines and point out that the ineffectiveness of utilisation of the increased furnace volume obtained with the plate coolers is shown by the equal performance of a new furnace with conventional stack cooling and with the same original volume. The authors give graphs relating the temperature of the cooler ribs to heat flow for the two Dzerzhinsk furnaces with peripheral plate coolers. There are 2 figures.

ASSOCIATION: Giprostal'

AVAILABLE Library of Congress
Card 1/1

LIDERS, G. V.

LIDERS, G.V., kandidat tekhnicheskikh nauk, dotsent; VICHEREVIN, A.Ye.,
redaktor; RATNER, G.P., tekhnicheskiiy redaktor.

[Railroad track] Zhelesnodorozhnyi put'. Moskva, Gos. transp.
zhel-dor. izd-vo, 1946. 321 p. (MIRA 7:8)
(Railroads--Track)

LIDERS, G. V.

Zheleznodorzhnyi put'. / Railroad tracks/. 2. perer. izd. Dopushcheno v kachestve u
uchebnika dlia zhel-dor. uchiisheh. Moskva, Gos. transp. zhel-dor. izd-vo, 1950.
331 p. illus.

DLC: TF240. L49 1950

SO: Soviet Transportation and Communications. A Bibliography, Library of Congress
Reference Department, Washington, 1952, Unclassified.

LIDERS, G.V., dotsent, kand. tekhn. nauk; SOROKIN, N.N., red.; KHITROV,
P.A., tekhn. red.

[Railroad track; construction, repair and current maintenance]
Zheleznodorozhnyi put'; ustroistvo, remont i tekushchee soder-
zhanie. Izd. 3., perer. Moskva, Gos. transp. zhel-dor. izd-vo,
1953. 364 p.

(MIRA 14:5)

(Railroads--Track)

ANTIPOV, Ivan Antipovich; LIDERS, Georgiy Vladimirovich; CHERNYSHEV, V.I.,
redaktor; BOBROVA, Ye.N., ~~tekhnicheskii redaktor~~

[A production and financial plan for long hauls by railroads]
Proizvodstvenno-finansovyi plan dstantsii puti. Moskva, Gos. transp.
zhel-dor. izd-vo, 1956. 47 p. (MLRA 10:3)
(Railroads--Management)

LIDERS, G.V., kandidat tekhnicheskikh nauk,

Means of improving business accounting in railroad divisions.

Trudy MTBI no.3:106-111 '56.

(MLRA 10:6)

(Railroads--Maintenance and repair)

62-000000-0000
PECHUGIN, Donat Arsent'yevich; SINKIN, Petr Aleksandrovich; LIDERS, G.V.
kandidat; tekhnicheskikh nauk, redaktor; SOROKIN, N.N., inzhener,
redaktor; BOEROVA, Ye.N., tekhnicheskii redaktor.

[Re-laying of track superstructure; practices of track stations]
Rekonstruktsiia verkhnego stroeniia puti; opyt pytevykh mashinnykh
stantsii. Moskva, Gos.transp.shel-dor.isd-vo, 1957. 70 p.

(MIRA 10:4)

(Railroads--Track)

DEMICHEV, A.D.; YINGOVATOV, A.A.; KUZNETSOV, N.N.; KOSTYUKOVICH, N.I.;
ULYUYEV, D.I.; USHAKOV, S.M.; ~~LIDERS, G.N.~~, kandidat tekhnicheskikh nauk, redaktor; BOEROVA, Ye.N., tekhnicheskiiy redaktor

[Mechanizing work in major repairing of railroad tracks; experience of track machinery stations] Mekhanizatsiya rabot po kapital'nomu remontu puti; opyt putevykh mashinnykh stantsii. Moskva, Gos. transp.zhel-dor.izd-vo, 1957. 107 p. (MLRA 10:9)
(Railroads--Track)

LIDERS, G.V., dotsent, kandidat tekhnicheskikh nauk.

Evaluating the efficiency of advanced methods in track maintenance.
Trudy MTNI no.5:65-73 '57. (MIRA 10:10)
(Railroads--Maintenance and repair)

LIDERS, G.V., dotsent, kandidat tekhnicheskikh nauk.

Caloulating the straightening of railroad track curves. Trudy MFEI
no.5:90-112 '57. (MIRA 10:10)

(Railroads--Curves and turnouts)

ARTEM'YEV, V.M., inzhener; LIDERS, G.V., dotsent, kandidat tekhnicheskikh nauk; KOZIYCHUK, P.G., professor, doktor tekhnicheskikh nauk.

Investigation of the causes of wear in rails and wheel rims on some lines of the Moscow subway. Trudy MTEI no.5:142-172 '57.

(MLBA 10:10)

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KOLESNIKOV, Pavel Ivanovich, kand.tekhn.nauk; LIDERS, Georgiy Vladimirovich,
kand.tekhn.nauk; BRADZE, David Georgiyevich, inzh.; SERGEYEVA, A.I.,
inzh., red.; VERINA, G.P., tekhn.red.

[Rail-lifting repair of tracks; practices of track repairmen of
the Stalino, North Caucasus, and Southwestern Railroad] Pod"-
emochnyi remont puti; opyt puteitsev Stalinskoi, Severo-Kav-
kazskoi i Iugo-Zapadnoi dorog. Moskva, Gos. transp. shel-dor.
izd-vo, 1958. 99 p. (MIRA 11:12)

(Railroads--Track)

AL'BRUKHT, Vladimir Geogriyevich, doktor tekhn. nauk; LIDERS, G.V., kand.
tekhn. nauk, red.; SOROKIN, N.N., inzh., red.; KHITROV, P.A., tekhn.
red.

[Creep of railroad track and its control] Ugon zheleznodorozhnogo
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142,p. (MIRA 11:7)

(Railroads--Track) (Creep of metals)

LEKHNO, Il'ya Borisovich, inzh.; LIDERS, G.V., kand.tekhn.nauk, red.;
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[New rail and joints design] Novye konstruktsii rel'sov i
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AL'BREKHT, Vladimir Georgiyevich, prof.; LIDERS, Georgiy Vladimirovich, dotsent; NIKIFOROV, Pavel Aleksandrovich, prof. [deceased]; CHLENOV, Mikhail Timofeyevich, kand.tekhn.nauk; CHERNYSHEV, Mikhail Andreyevich, kand.tekhn.nauk; FRISHMAN, M.A., prof., retsenzent; ANDREYCHENKO, A.V., inzh., retsenzent; BABKIN, A.R., inzh., retsenzent; BEZRUCHKO, V.S., inzh., retsenzent; ZHEREBIN, M.I., inzh., retsenzent; MEL'NIK, D.M., inzh., retsenzent; MURAV'YEV, I.V., inzh., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; PASHININ, S.A., inzh., retsenzent; POTOTSKIY, G.I., inzh., retsenzent, red.; RAK, S.M., inzh., retsenzent; TYUTYUNNIK, F.R., inzh., retsenzent; ULUYEV, D.I., inzh., retsenzent; SHEPELEV, V.N., inzh., retsenzent; BOBROVA, Ye.N., tekhn.red.

[Track work] Putevoe khoziaistvo. Pod red. M.A.Chernysheva. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 435 p. (MIRA 12:12)

1. Kafedra "Put' i putevoye khozyaystvo" Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Frishman).
(Railroads--Track)

LIDERS, G.V....kand.tekhn.nauk; SMIRNOVA, M.B., kand.tekhn.nauk

Reconditioning of rails and fastenings. Trudy MII^T no.120:
120-146 '59. (MIRA 12:8)
(Railroads--Rails--Maintenance and repair)

LEKHNO, Il'ya Borisovich; LIDERS, Georgiy Vladimirovich; POTOTSKIY, G.I.,
red.; KHITROV, P.A., tekhn.red.

["Dragavtsev" ballast cleaner] Mashina Dragavtseva. Moskva, Vses.
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33 p. (MIRA 13:9)

(Railroads--Equipment and supplies) (Ballast (Railroads))

SELISHCHEV, V. I., inzh.; LIDERS, G. V., dot agent

Track machinery station for student training. Put' i put. khoz.
6 no.9:25-26 '62. (MIRA 15:10)

(Railroads—Track)

(Railroad engineering—Study and teaching)

BOLOTIN, V.I.; LEKHNO, I.B.; LIDERS, G.V.

Book on track overhauling. Put' 1 put. khoz. 8 no.1:39
'64. (MIRA 17:2)

LIDERS, G.V., kand.tekhn.nauk

Improving the technology of track repair. Pat' i put.khoz. 9
no.5:15-16 '65. (MIRA 18:5)

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of tracks. Put' i put. khoz. 9 no.11:10-12 '65.
(MIRA 18:11)

LIDES, A. Ya.

AID P - 1194

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 16/27

Author : Lides, A. Ya., Eng.

Title : On the necessity of revising "Safety rules of operating electrical installations of urban and rural networks"

Periodical : Energetik, 12, 26-28, D 1954

Abstract : The author believes that the above "Rules" issued by the Ministry of Electric Power Stations of the USSR in 1944 are out of date because of the rapid development of electrical engineering and require revision. He gives examples of several obsolete prescriptions.

Institution : None

Submitted : No date

~~LIDES, Arnold Yakovlevich; SOBOLEV, N.I., retsenzent; IOKHVIDOV, E.S.,
red.; VORONIN, E.D., tekhn.red.~~

[Municipal electric networks] Gorodskie kommunal'nye
elektricheskie seti. Moskva, Gos.energ.izd-vo, 1959. 142 p.
(MIRA 12:8)

(Electric networks)

FAHRNER, R., inz.; CADEK, A.; POUR, B., inz., dr.; HLUBUCEK, inz.;
PFLEGER, V.; NETUSIL, J.; REISS, L., prof., inz.; KOHOUT,
J.; KRIKA, J.; VLASAK, J.; VLACH, J., inz., dr.; CERNY, St.;
KALDROVIC, P.; JIRASEK, J.; BURES, J.; SCHIFFLER, O., inz.;
LIDICKY, Fr., inz.; BRAUNER, J., inz.

Record of the 1st National Conference of the Czechoslovak
Scientific and Technical Society, Section for Power Engineering,
held in Prague, April 1961. Energetika Cz 11 no.6:Suppl.:
Energetika 11 no.6:1-11 '61.

SUCHOMEL, Frantisek; NAVRATIL, inz.; SLADEK; CERNY; CHVATAL, dr.; LIDICKY,
Frantisek, inz.

Cooperation of the Ministry of Fuel and Power with people's committees
in managing the power resources. Energetika Cz 11 no.8:Suppl.:Energetika
11 no.8:1-6 '61.

1. Ministerstvo paliv a energetiky (for Suchomel and Lidicky)

LIDIKH, A. K.

A. K. Lidikh, "An experimental investigation of the influence of industrial noise on the intelligibility of speech." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep 58.

Experimental investigations of the influence of industrial interference on the intelligibility of speech are presented for AM, FM in the 2 - 400 mc frequency range. Conclusions are made on the high protection of radio telephone receivers from industrial interference.

Cases are analyzed of the effect of complex industrial interference on the radio telephone reception of AM and FM signals.

LIDWIN, Antoni, mgr inz.

Protection and safety devices of electric power networks in
France. ~~82.82~~ ~~Wzrosty~~tyka Pol 17. ~~11.340-344~~ N '63.

86-58-5-36/38

AUTHOR: Lidin, A. M., Engr Lt Col

TITLE: ~~Textbook on the Theory of Aircraft Flight~~
Textbook on the Theory of Aircraft Flight (Uchebnik po teorii poleta samoleta)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 5, pp 87-89 (USSR)

ABSTRACT: This is a critical review of the book "Fundamentals of Theory of Aircraft Flight" (Osnovy teorii poleta samoleta), by A. N. Yefimov, A. N. Parkhuga, I. A. Tilevich, L. S. Tuler, B. B. Fel'dblyum, K. G. Shaposhnikov, published by the Ministry of Defense of USSR, Moscow, 1957, 444 pages.

AVAILABLE: Library of Congress

1. Books - Review

Card 1/1

LIDIN, B.

Hard surfacing round parts with a PSh-5-U semiautomatic welding machine mounted on a turning lathe. Mor.flot 17 no.5:25
My '57. (MIRA 10:7)

1. Starshiy inshener-inspektor Registra SSSR (Arkhangel'sk)
(Hard facing)

LIDIN, B.

Testing of internal combustion engines. Mer. flot 21 no. 6:22
Je '61. (MIRA 14:6)

1. Starshiy inzhener-inspekter Arkangel'skoy inspektsii
Registra SSSR.
(Marine engines--Testing)

LIDIN, Dmitriy.

Creative work. Avtom., telem. i svyaz' no. 5:39-40 My '57. (MLRA 10:7)
(Spiridonov, Nikolai Vasil'evich)

LIDIN, Dmitriy

Tireless innovator. Avtom., telem. i sviaz' 2 no.5:41 My '58.
(MIRA 11:5)

(Tantsiura, Aleksei Andronikovich, 1908-)

LIDIN, Dmitriy.

Exhibition of new communication techniques. Avtom., telem. i svyaz'
2 no.6:42-44 Je '58. (MIRA 11:6)
(Telecommunication--Exhibitions)

LIDIN, Dmitriy

At the All-Union Industrial Exhibition. Avtem., telem. i sviaz'
2 no.11:44-45 N '58. (MIRA 11:12)

(Telecommunication--Exhibitions)

ANTONOV, Igor'; LIDIN, DMITRIY

Heroes of socialist labor. Avtom., telem. i avias 3 no.9:
4-6 S '59. (MIRA 13:2)

(White Russia--Railroads--Employees)
(Kiev--Electric industry workers)

LIDIN, Dmitriy

Exhibition of French measuring instruments. Avtom., telen.i
sviaz' 4 no.6:43-45 Je '60. (MIRA 13:7)
(Moscow--Exhibitions)
(France--Electronic apparatus and appliances)

LIDIN, Dmitriy

Visit the Exhibition of the Achievements of the National Economy
of the U.S.S.R. Avtom., telem. i svyaz' 4 no.10:41-43 O '60.
(MIRA 13:10)
(Moscow--Exhibitions) (Telecommunication)

LIDIN, Dmitriy.

Hungarian industrial exhibition. Avtom.telem i svias' 4 no.11:45-47
N '60. (MIRA 13:11)

(Moscow--Exhibitions)

(Hungary--Communication systems)

L1819
S/223/62/000/011/001/002
A055/A126

AUTHORS: Paderno, I.P., Candidate of Technical Sciences, Lidin, D.

TITLE: Problems of reliability

PERIODICAL: Avtomatika, telemekhanika i svyaz', no. 11, 1962, 17 - 22

TEXT: The authors explain (on several practical everyday examples) what reliability really is, and stress the importance of resorting to the "reliability science", especially in telephony and railroads. The fundamentals of the probability law are stated and the exponential law is explained. The determination of the reliability of a system containing n elements whose individual reliability is known, is briefly explained, and the probability of faultless operation of two amplifiers is calculated as a practical example. The possibility of increasing the reliability by preventive maintenance is mentioned. At the end of the article the authors briefly describe how music can help in checking the faultless operation of electronic computers. A special attachment, reading numbers and alphabetic characters directly (without the aid of punched or magnetic tapes) and containing an analytical device for conversion of notes into sets of

Card 1/2

LIDIN, Dmitriy

At the forefront. Avtom., telem. i svyaz' 6 no.6:44 Je '62.

(MIRA 15:7)

(Communism)

(Railroads--Employees)

PADERNO, I.P., kand.tekhn.nauk; LIDIN, Dmitriy

Problems of reliability. Avtom., telem.i svias' 6 no.11:17-22
N '62. (MIRA 15:11)
(Electronic industries--Quality control)

OVSYANNIKOV, G.G., aspirant; LIDIN, Dmitriy

Electronic calculating machines. Avtom., telem. i svyaz' 6
no.10:16-20 0 '62. (MIRA 16:5)
(Railroads--Electronic equipment) (Electronic computers)

OVSYANNIKOV, G.G., aspirant; LIDIN, Dmitriy

Electronic computers. Avtom., telem. i svyaz' 7 no.2:18-22 F '63.
(MIRA 16:3)

(Electronic computers)